Table 8: Ranking of leadership in the surveyed areas

District	Leadership	No. of times ranked				Weighted Rank
		First	Second	Third	Fourth	
Behsud	Malik	13	1	1	0	1
	Mulla	9	5	0	0	2
	Commander	6	4	0	0	3
	Khan	0	0	0	0	4
Shinwar	Malik	15	3	0	0	1
	Commander	6	5	0	0	2
	Mulla	1	5	3	0	3
	Khan	0	0	0	0	4
Batikot	Malik	25	8	0	0	1
	Commander	8	12	1	0	2
	Mulla	1	11	4	0	3
	Khan	0	0	1	0	4
Mohmand Dara	Commander	8	0	0	0	1
	Malik	0	7	1	0	2
	Mulla	0	1	3	0	3
	Khan	0	0	0	0	4
Sorkh Rod	Malik	8	8	2	0	1
	Commander	12	2	0	0	2
	Mulla	1	9	5	0	3
	Khan	0	1	1	0	4

In the surveyed villages of overall Nangarhar Canal Command Area also malik is considered the important powerful person followed by Commanders (Table-9).

Table 9: Ranking of leadership in the Nangarhar Canal Command Area

Leadership	No. of times ranked				Weighted Rank
	First	Second	Third	Fourth	
Malik	61	27	4	0	1
Commander	40	23	1	0	2
Mulla	12	31	15	0	3
Khan	0	1	2	0	4

The role and important of mulla ranked third place both in the individual district (Table-8) and in the overall Nangarhar Canal Command Area (Table-9).

5. AGRICULTURE AND IRRIGATION

Agricultural Land:

Upon a partial or complete repatriation of refugees it is important for the farmers to have some kind of farm power for cultivation of their land. In the surveyed villages of the five districts Behsud had 16 tractors, and 6 threshers and Batikot had 22 tractors and 11 threshers (Table-10).

Table 10: Type and No. of farm power used

District	No. of tractor	No. of thresher	No. of oxen	No. of farms with no farm power	% of farmers with no farm power
Behsud	16	6	127	6	20.7
Shinwar	0	0	544	0	0
Bati Kot	22	11	424	1	2.9
Mohmand Dara	0	0	258	0	0
Sorkh Rod	0	0	209	0	0
Total	38	17	1562	7	6.3

The number of oxen as a farm power varied in various districts. Shinwar had the greatest number of 544 oxen followed by 424 oxen in Batikot with the smallest number of 127 oxen in Behsud district (Table-10).

Behsud and Batikot were the only two districts having tractors and thresher as farm power. However in Behsud about 21% and in Batikot 3% of the farmers were without any type of farm power (Table-10).

Average farm size is very important for the living standard of farmer families, provided other conditions are suitable for cultivation. In the surveyed villages of five districts of the canal command area the average farm size was very similar ranging from 6 to 8 Jeribs per family (Table-11). In Behsud and Sorkh Rod the average farm size was 6 Jeribs per family, which was slightly smaller than the other three districts (Table-11).

Table 11: Average farm size

District	Total average farm size (jerib)	Average Jeribs
Behsud	178	6
Shinwar	163	8
Bati Kot	235	7
Mohmand Dara	65	8
Sorkh Rod	117	6

Generally farmers with smaller farm size like to plant those plants, which will produce the maximum cash income per unit area of land to obtain the subsistence requirements.

Types of crops Grown:

In the surveyed villages the maximum number of food crops grown were 5, fruits 11, Industrial crops 3, vegetables 13 and illicit crops 2 (Table-12).

In Shinwar and Mohmand Dara only two food crops of maize and irrigated wheat were grown whereas in Behsud, Batikot and Sorkh Rod five food crops were grown (Table-12). In Shinwar and Mohmand Dara no any kind of fruit was grown whereas in Behsud and Batikot eleven and in Sorkh Rod nine different types of deciduous and evergreen fruits were grown.

In Behsud Sugarcane and cotton and in Batikot cotton, sugarcane and sesame and in Shinwar, Mohmand Dara and Sorkh Rod only cotton was grown as an industrial crops (Table-12). In Sorkh Rod 13 in Batikot 11 and in Behsud 10 different kinds of vegetables were grown, whereas in Shinwar and Mohmand Dara 5 and 6 different types of vegetables were grown respectively (Table-12).

Due to the tradition of the people and limited amount of availability of irrigation water in Shinwar and Mohmand Dara district no cash crop (fruit) was grown and a lesser number of other crops were grown as compared to the Behsud, Sorkh Rod and Batikot districts.

Table 12: Types of the crops grown by farmers

	Behsud	Shinwar	Bati Kot	Mohmand Dara	Sorkh Rod
Food crop Cereal crop	Barley Maize Rice Irrigated Wheat	Maize Irrigated Wheat	Barley Maize Mung Bean Rice Irrigated Wheat	Maize Irrigated Wheat	Barley Maize Mung Bean Rice Irrigated Wheat
Cash crop Fruit crop	Apple Apricot Grape Loquat Lemon Melon Orange Peach Plum Pomegranate Water Melon		Apricot Berry Fig Grape Guva Loquat Mulberry Orange Peach Plum Pomegranate		Apricot Berry Fig Grape Loquat Lemon Orange Plum Pomegranate
Industrial crop	Cotton Sugar Cane	Cotton	Cotton Sugar Cane Sesame	Cotton	Cotton
Vegetables	Cabbage Cauliflower Cucumber Egg Plant Luffa Okra Squash Tomato Turnip Water Melon	Egg Plant Okra Onion squash Tomato	Cauliflower Cucumber Egg Plant Okra Onion Potato Spinach Tomato Turnip Water Melon	Egg Plant Luffa Okra Onion Squash Tomato	Cauliflower Cow Pea Carrot Cucumber Egg Plant Garlic Leek Okra Onion Potato Pepper Spinach Tomato
Illicit crop	Poppy	Poppy	Hashish Poppy	Poppy	

Irrigation Sources, Damages and Improvements:

The name, flow rate and status of canals in miscellaneous surveyed villages are presented in (Appendix-C) and the name, flow rate and status of Karezes as source of irrigation water in different surveyed villages are presented in (Appendix-D).

For all 112 surveyed villages of the five districts some canals were with normal flow rate of water and some with intake damaged, destroyed and uncleaned and destroyed (Appendix-C).

In the surveyed villages of Behsud there were a total of 11 Karezes, some uncleaned and damaged and some with normal flow rate of irrigation water (Appendix-D). There was only one karez in Shinwar which was uncleared and damaged. In the surveyed villages of Batikot district there were 7 karezes of which all were either uncleaned and damaged or only uncleaned or damaged (Appendix-D). In the surveyed villages of Mohmand Dara and Sorkh Rod districts Karezes as an irrigation source were not existing (Appendix-D).

The number of miscellaneous surveyed villages of the five districts of the canal command area which need improvement of the irrigation system is presented in Table 13.

Table 13: No. of villages which need improvement in irrigation system

District	Repair & construction of intakes	Construction of aqueducts	Construction of diversion	Construction of culverts	Construction of siphon
			No. of villages		
Behsud	27	1	19	26	0
Shinwar	19	0	0	0	0
Bati Kot	23	0	6	21	17
Mohmand Dara	8	0	0	0	0
Sorkh Rod	6	0	3	3	0
Total	83	1	28	50	17

In Behsud district 27 surveyed villages needed the repair and construction of intakes of irrigation water source, one village the construction of aqueduct, 19 villages the construction of diversion and 26 villages the construction of culverts (Table-13). In Shinwar and Mohmand Dara 19 and 8 villages respectively needed only the repair and construction of intakes of the irrigation water sources.

In Batikot district, 23 of the surveyed villages needed the repair and construction of the intakes of irrigation water source, 6 villages construction of diversion, 21 villages the construction of culverts and 17 villages the construction of Siphons (Table-13). In the Sorkh Rod district 6 of the surveyed villages needed the repair and construction of the intakes of irrigation water source, 3 villages the construction of diversion and 3 villages the construction of culverts (Table-13).

6. OPIUM POPPY ASSESSMENT

Illicit Crop Cultivation:

In the Nangarhar Canal Command Area, poppy cultivation seems to be a tradition. From 112 villages surveyed in 60 villages people indicated that they have been growing opium poppy since long ago and in Batikot in one village it has been growing since before war (Table-14). Out of 112 villages surveyed in 51 villages the answer to the history of poppy cultivation was not given by the people (Table-14).

Table 14: The History of poppy cultivation

	No. of Villages						
	Since long time	Before war	During war	Recently	Not given answer	Total	% responded
Behsud	4	0	0	0	25	29	14
Shinwar	15	0	0	0	5	20	75
Mohmand	33	1	0	0	0	34	100
Dara	8	0	0	0	0	8	100
Sorkh Rod	0	0	0	0	21	21	0
Total	60	1	0	0	51	112	54

In most of the surveyed villages in reference to illicit crop cultivation only opium poppy is growing and in Batikot district in 4 surveyed villages poppy and hashish both are cultivated (Table-15). From 112 surveyed villages it was found that there was no illicit crops cultivation in 51 villages. (Table-15).

Table 15: Types of illicit crops grown

District	Poppy	Hashish	Both	None	Total
Behsud	4	0	0	25	29
Shinwar	15	0	0	5	20
Bati Kot	30	0	4	0	34
Mohmand Dara	8	0	0	0	8
Sorkh Rod	0	0	0	21	21
Total	57	0	4	51	112

In the surveyed villages of Sorkh Rod there was 6530 Jeribs of cultivated land and poppy was not cultivated in this land which can be seen from the zero percent poppy cultivation in this district (Table-16). In addition to that in 13610 Jeribs cultivated land in Behsud only in 60 Jeribs of land poppy was cultivated, which was 0.4 percent (Table-16). In all other three

districts of the canal command area in about 13 percent of the cultivated land, opium poppy was cultivated. This figure agrees with the UNDCP mission estimate of percentage poppy cultivation.[5]

Table 16: Percent of poppy cultivation

District	Total cultivation Land (jerib)	Total poppy cultivation (jerib)	% poppy cultivation
Behsud	13610	60	0.4
Shinwar	7550	970	12.8
Bati Kot	16196	2118	13.1
Mohmand Dara	3180	425	13.4
Sorkh Rod	6530	0	0.0
Total	47066	3573	7.6

Percentage of poppy cultivation by village in the surveyed villages of the canal command area is presented in Appendix-E. Appendix-E shows that in 29 surveyed villages only in 4 villages of Behsud poppy was cultivated and in Sorkh Rod it was not cultivated at all.

From 20 villages surveyed in Shinwar in 5 villages poppy was not cultivated, but in all the surveyed villages of Mohmand Dara and Batikot poppy was cultivated (Appendix-E).

It is a general believe in Nangarhar province that.the smaller the size of the farm, the greater is the chance for opium poppy cultivation by the farmers. The results of this survey does not support the above believe, because in the surveyed villages of Sorkh Rod and Behsud the sizes of the farms were smaller, but poppy cultivation was either not existing or very insignificant (Table-11).

The average yield of poppy and some cereal crops is presented in (Table-17):

Table 17: Average yield of poppy and cereal crops (Kg/Jerib)

District	Poppy	Wheat	Maize	Rice
Behsud	7.5	480.0	302.4	555.6
Shinwar	9.0	506.6	465.5	0.0
Bati Kot	9.5	658.8	504.4	621.3
Mohmand Dara	9.6	529.4	525.0	0.0
Sorkh Rod		586.7	355.0	502.3

5 UNDCP, CB Mission Report No. 5, dated May 05 to 28, 1993.

The average yield of opium poppy ranged from 7.5 kilogram per jerib in Behsud to 9.6 kilogram per jerib in Mohmand Dara, whereas in Sorkh Rod poppy is not cultivated (Table-17). The highest yield of wheat was 658.8 kg/Jerib and the highest yield of rice was 621.3 kg/jerib in Batikot (Table-17). The unavailability of irrigation water due to the destruction and not cleaning of the irrigation system, rice was not grown in Shinwar and Mohmand Dara districts.

Inputs in Opium Production:

In growing poppy and in producing of opium, agricultural and labour inputs are needed. The average amount of opium poppy seeds planted per jerib was 2 kilogram per jerib in the surveyed villages of four districts and its average price per kilogram ranges from Afs. 481 in Mohmand Dara to Afs.540 in Batikot and in Sorkh Rod it is not cultivated (Table-18).

Table 18: Average agriculture inputs in poppy production per Jerib

	Behsud		Shinwar		Bati Kot		Mohmand Dara		Sorkh Rod	
	Kg/jrb	Afs/Kg	Kg/jrb	Afs/Kg	Kg/jrb	Afs/Kg	Kg/jrb	Afs/Kg	Kg/jrb	Afs/Kg
Poppy Seed	2.1	500	2.0	493	2.0	540	2.0	481	0.0	0
DAP	29.8	273	24.0	273	22.5	285	21.3	266	0.0	0
Urea	30.0	200	28.2	199	39.1	226	24.6	198	0.0	0
Total Afs/jer	15185.4		13149.8		16329.1		11498.6		0.0	

The use of the average amount of diammonium phosphate fertilizer ranges from 21 kg per jerib in Mohmand Dara to 30 kg/jerib in Behsud and its average price ranges from 266 Afs/kg in Mohmand Dara to 285 Afs/kg in Batikot (Table-18). In Behsud the highest amount of DAP was used (Table-18), but the lowest yield, 7.5 kg/jerib was produced (Table-17).

The use of the average amount of urea fertilizer ranges from 25 kg/jerib in Mohmand Dara to 39 kg/jerib in Batikot and the average price/kg of urea ranges from Afs.198 in Mohmand Dara to Afs. 226 in Batikot (Table-18).

The total agricultural inputs in poppy production ranges from 11498 Afs./Jerib in Mohmand Dara to 16449 Afs./Jerib in Batikot with about 30% difference in the expenditure between the two districts (Table-18).

The total number of man-days per jerib for poppy weeding and sap collection was very similar between the districts, except it was high (72.5 man-day/jerib) in Behsud and sap collection payment per day was slightly higher than weeding payment (Table-19).

The average price per kilogram of opium ranges from Afs. 49714 in Mohmand Dara to Afs. 62265 in Batikot with a difference of 20% between the two districts (Table-19).

Table 19: Average labour inputs in poppy production

Districts	Man-days days/jrb	Weeding Afs/day	Sap Collectio n Afs/day	Avg. price of opium/Kg *	Total expenditure Afs/jrb
Behsud	72.5	2,000	2,375	56,750	158,594
Shinwar	66.2	1,040	1,333	59,167	78,546
Bati Kot	64.6	1,559	2,188	62,265	121,028
Mohmand Dara	65.0	1,013	1,500	49,714	81,673
Sorkh Rod	0	0	0	0	0

*** It is field Price/Kg**

The average labour expenditure varies a great amount between the districts. It is Afs.78546/Jerib in Shinwar and Afs. 158594/Jerib in Behsud with a difference of about 50% between the two districts (Table-19). The average agricultural inputs were the highest in Batikot (Table-18) and the average labour expenditure was the highest in Behsud (Table-19).

Opium Net Income and Marketing

The net income of opium Afs/Jerib is presented in Table-20.

Table 20: Net return of opium per jerib

	Opium			Input	Net income
District	Kg/jrb	Afs/Kg	Afs/jrb	Afs/jrb	Afs/jrb
Behsud	7.5	56,750	425,625.0	173,779	251,846
Shinwar	9.0	59,167	532,503.0	91,696	440,807
Bati Kot	9.5	62,265	589,649.5	137,357	452,292
Mohmand Dara	9.6	49,714	475,762.9	93,172	382,591
Sorkh Rod	0	0	0	0	0

This table shows that the average yield of opium kg/Jerib is similar between the three districts of Shinwar, Batikot and Mohmand Dara but lower (7.5 kg/jerib) in Behsud. The gross income Afs.589649.5 and net income Afs. 452292 was the highest in Batikot and the lowest gross income Afs. 425625 and net income Afs. 251846 in Behsud (Table-20). This shows about 28% difference in the gross income and about 44% difference in the net income between the Batikot and Behsud districts.

This lower net income of opium per jerib in Behsud might be one of the reason, why people in Sorkh Rod do not cultivate poppy and very small amount in Behsud as compared to Batikot, Shinwar and Mohmand Dara districts of the Nangarhar Canal Command Area.

Marketing of opium is presented in Table-21.

Table 21: Marketing of opium

District	Percent Farmers selling: Within village	Percent Farmers selling: Out of village
Behsud	100	0
Shinwar	78	22
Bati Kot	97	3
Mohmand Dara	100	0
Sorkh Rod	0	0

In Behsud and Mohmand Dara districts 100% and in Shinwar 78 and in Batikot 97% of the opium is sold within the village (Table-21). This table indicates that in the surveyed villages the farmers are not much involved in the marketing and trafficking of opium out of the villages.

Feasibility of Illicit Crop Eradication:

Formal and informal programme of reduction in poppy cultivation in the surveyed villages is presented in (Table-22)

Table 22: Formal and informal programme of reduction in poppy cultivation

No. of villages

	Formal			Informal			
Districts	Positive	Negative	None	Positive	Negative	None	Total
Behsud	0	3	26	2	2	25	29
Shinwar	0	15	5	0	15	5	20
Bati Kot	0	34	0	8	25	1	34
Mohmand Dara	8	0	0	0	8	0	8
Sorkh Rod	0	0	12	0	0	21	21
Total	8	52	52	10	50	52	112

There was no formal or informal programme of reduction in poppy cultivation in the surveyed villages of Shinwar (Table-22). There was a formal programme of reduction in poppy cultivation in all the surveyed villages of Mohmand Dara district and an informal programme in 8 surveyed villages of Batikot and two surveyed Villages of Behsud district (Table-22).

1. INTRODUCTION

Nangarhar is widely known for being one of the main cultivation areas of opium poppy and cannabis in Afghanistan. In order to combat this problem UNDCP carried out programmes aimed at reduction/eradication of illicit crop production, trafficking and abuse. These include support for supply reduction through the funding of rehabilitation and reconstruction projects in Afghanistan aimed at improving community standards of living and demand reduction aimed at bringing to the attention of Afghans the destructive dangers which drug abuse present to the society and culture in Afghanistan.

Various statistical information gathered during the last two years from the field studies and remote sensing using satellite imagery indicate the seriousness of the problem to be combatted. Information on cultivation trends of the illicit crops is necessary to measure the impact and effect of United Nations and other donor programmes as well as to assist in future planning. Having this in mind it is important for data collection to be constantly renewed and improved and the information updated.

In view of the UNDCP commitment to rehabilitation and reconstruction efforts in Nangarhar a decision was made to undertake a more extensive baseline survey in two phases (Phase-I Nangarhar Canal Command Area) and (Phase-II Nangarhar Province) in the early part of 1993. In addition a sub-project proposal for rehabilitation of the Nangarhar Canal is under review and it is essential that the extent of illicit crop cultivation is known in order to accurately evaluate and monitor the future impact on cultivation trends in the light of the increase in irrigation potential to the farmers and the expected return of more refugees.

Based on unpredictable security situation in Nangarhar in the early part (opium poppy cultivation activities) of 1993, only Baseline Survey Nangarhar Phase-I was conducted by Agricultural Survey of Afghanistan, the Swedish Committee for Afghanistan funded by UNDCP. The Baseline Survey Nangarhar Phase-II will probably be carried out during the early part of 1994.

Baseline Survey Nangarhar Phase-I provides a detailed analysis of the extent of illicit crop cultivation with specific reference to opium poppy in the Nangarhar Canal Command Area.. Also information and statistics on general cropping patterns and demography in the area is provided.

The effectiveness of the formal and informal programme of reduction in poppy cultivation is presented in Table-23.

Table 23: Effectiveness of Programme

Districts	Effective	Not effectiv e	None	Total
Behsud	1	1	27	29
Shinwar	0	0	20	20
Bati Kot	1	7	26	34
Mohmand Dara	0	8	0	8
Sorkh Rod	0	0	21	21
Total	2	16	94	112

The formal and informal programme of reduction in poppy cultivation which was carried out in 18 of the surveyed villages of Behsud, Mohmand Dara and Batikot (Table-22). It was effective only in 2 of the surveyed villages and was not effective in 16 of the surveyed villages (Table-23).

In the surveyed villages, the average intention of the local people about the illicit crops cultivation is presented in Table-24.

Although in Behsud district poppy cultivation was very insignificant (Table-16), but the majority (60%) of the local people intention was to continue poppy cultivation (Table-24). In the surveyed villages of Behsud 20% of the local people want reduction, 14% want a complete eradication of the poppy cultivation and 22% of the people like to substitute poppy cultivation by another crop (Table-24).

In the surveyed villages of Shinwar 22% of the local people liked to continue poppy cultivation, 20% wanted reduction in poppy cultivation and the majority about 72% wanted to substitute poppy cultivation by another crop (Table-24).

In the surveyed villages of Batikot and Mohmand Dara districts 64 and 79% of the local people liked substitution of poppy cultivation by another crop and 28 and 18% respectively wanted to continue poppy cultivation (Table-24). In Batikot 16% of the people liked reduction in poppy cultivation and 17% a complete eradication of poppy cultivation whereas, in Batikot 11% of the people wanted reduction in poppy cultivation and no one was interested in the complete eradication of poppy cultivation (Table-24).

Table 24: Percent Intention of local people about illicit crop

Districts		Percent poppy	Percent hashish
Behsud			
	Continued cultivation	60	0
	Reduction in cultivation	20	0
	Complete eradication	14	0
	Substitution by another crop	22	0
Shinwar			
	Continued cultivation	22	0
	Reduction in cultivation	20	0
	Complete eradication	0	0
	Substitution by another crop	72	0
Bati Kot			
	Continued cultivation	28	0
	Reduction in cultivation	16	0
	Complete eradication	17	0
	Substitution by another crop	64	0
Mohmand Dara			
	Continued cultivation	18	0
	Reduction in cultivation	11	0
	Complete eradication	0	0
	Substitution by another crop	79	0
Sorkh Rod			
	Continued cultivation	0	0
	Reduction in cultivation	0	0
	Complete eradication	0	0
	Substitution by another crop	0	0
Total			
	Continued cultivation	27	0
	Reduction in cultivation	16	0
	Complete eradication	16	0
	Substitution by another crop	65	0

The results in (Table-24) show that the local people in the surveyed villages need some kind of cash crop cultivation in order to fulfil their living requirements. As it is noticeable in Table 24 that the majority (65%) of the local people in the surveyed villages in the Nangarhar Canal Command Area want substitution of poppy cultivation by another crop.

7. VILLAGE CIRCUMSTANCES

Damages of war and construction priority:

In the surveyed villages in the Nangarhar canal area in Behsud 87% of the houses and in Sorkh Rod 66% of the houses are destroyed (Table-25). The farther the surveyed villages from the Jalalabad city the smaller the percentage of the destroyed houses as in Shinwar 34%, in Mohmand Dara 37% and in Batikot 47% of the houses are destroyed during the war (Table-25).

Table 25: Percent of houses destroyed

Districts	Percentage of destroyed house
Behsud	87
Shinwar	34
Bati Kot	47
Mohmand Dara	37
Sorkh Rod	66

It appear from the results of the surveyed villages that the nearby or suburb areas of Jalalabad city were more heavily the battle ground of the war as compared to the rural areas.

In the surveyed villages of Behsud 21 schools and 64 mosques were destroyed and in the surveyed villages of Batikot 5 schools and 70 mosques were destroyed. (Table-26).

Table 26: Number of school, mosque and clinic destroyed and not destroyed

	School		Mosque		Clinic	
Districts	Destroyed	Not Destroyed	Destroyed	Not Destroyed	Destroyed	Not Destroyed
Behsud	21	2	64	6	0	3
Shinwar	0	1	21	27	0	1
Bati Kot	5	0	70	40	0	0
Mohmand Dara	0	1	7	12	0	0
Sorkh Rod	3	2	40	24	0	0
Total	29	6	202	109	0	4

In the surveyed villages of Shinwar and Mohmand Dara districts a relatively smaller number of mosques 21 and 7 were destroyed respectively and no school was destroyed in the two districts (Table-26). In the surveyed villages of Sorkh Rod 3 schools and 40 mosques were destroyed (Table-26).

In the surveyed villages of the Nangarhar Canal Command Area a total number of 29 schools and 202 mosques were destroyed and 6 schools and 109 mosques were not destroyed and out of 4 clinic none of them was destroyed (Table-26).

The results of the priority of construction of buildings in the surveyed villages of Nangarhar Canal Command Area is presented in Table 27.

Table 27: Ranking of priority of construction of building in Nangarhar Canal Command area

Districts	Type of building	Number of times ranked First	Second	Third	Weighted Rank
Behsud					
	Mosque	29	0	0	1
	School	0	29	0	2
	Clinic	0	0	29	3
Shinwar					
	Mosque	11	7	1	1
	School	8	12	0	2
	Clinic	0	1	18	3
Batikot					
	Mosque	29	2	0	1
	Clinic	3	26	1	2
	School	1	3	25	3
Mohmand Dara		4	3	1	1
	School	3	5	0	2
	Mosque	1	0	7	3
	Clinic				
Sorkh Rod		15	1	0	1
	Mosque	2	8	6	2
	School	2	7	7	3
	Clinic				
Total					
	Mosque	87	15	1	1
	School	15	55	32	2
	Clinic	6	34	62	3

In the surveyed villages of four districts such as Shinwar, Behsud, Batikot and Sorkh Rod mosque construction was the first priority and only in Mohmand Dara School construction was the first priority (Table-27). School construction was the second priority in the surveyed villages of all the districts, except in Batikot, where clinic construction was the second priority (Table-27).

In the Nangarhar Canal Command Area as a whole mosque construction was the first priority, followed by school construction as the second and clinic construction as the third priority (Table-27).

Infrastructure-Housing and Road Conditions:

In the surveyed villages of the Nangarhar Canal Command Area the house infrastructure is shown in Table-28.

Table 28: House Infrastructure

	Wall (%)			Roof (%)		Shape of roof (%)		
	Mud	Brick	Ovened brick stone	Wooden	Concrete Beams	Flat	Curve	Tent
Behsud	74.8	25.1	0.1	100	0.0	100	0.0	0.0
Shinwar	100	0.0	0.0	100	0.0	100	0.0	0.0
Bati Kot	96.8	3.2	0.0	100	0.0	100	0.0	0.0
Mohmand Dara	100	0.0	0.0	100	0.0	100	0.0	0.0
Sorkh Rod	49.5	48.6	1.9	100	0.0	100	0.0	0.0

In the surveyed villages of Shinwar and Mohmand Dara 100% of the wall of the houses were built from mud, whereas in Behsud 74.8%, in Batikot 96.8% and in Sorkh Rod 49.5% of the walls of the houses were built from the mud (Table-28).

The roofs of the houses in the surveyed villages of all the districts were constructed from the wood and the shape of the roofs were 100% of the flat type (Table-28). Sorkh Rod and Behsud districts are very close to Jalalabad city, therefore there were some houses with brick walls and about 3% houses in Batikot had brick walls.

In the surveyed villages of the canal command area the conditions of the access roads to the villages are presented in Table-29.

Table 29: Conditions of Access roads

	Numbers of		Percentage	
	Mined roads	None mined	Mined roads	Total
Behsud	0	29	0	29
Shinwar	0	24	0	20
Bati Kot	0	34	0	34
Mohmand Dara	0	8	0	8
Sorkh Rod	0	20	0	21
Total	0	115	0	112

All roads through the districts (beside the Torkham - Jalalabad and Jalalabad - Kabul road are dirt roads. These dirt roads in all the surveyed villages are free from mines in all five districts (Table-29).

In Behsud in 29 villages, the roads need filling with gravel, in 23 villages need widening and in 27 villages they need construction work Table-30.

Table 30: Number of Villages Which need works to be carried out for the access roads to the villages

District	No. of Villages			
	Filling gravel	Widening	Construction	Demining
Behsud	29	23	27	0
Shinwar	16	0	0	0
Bati Kot	34	5	27	0
Mohmand Dara	0	0	0	0
Sorkh Rod	11	5	7	0
Total	90	33	61	0

In Shinwar in 16 of the surveyed villages the roads only need filling with gravel, whereas in Mohmand Dara there is no need for road improvement (Table-30). In Batikot in all the surveyed villages, the roads need to be filled with gravel, in 5 villages need widening and in 27 villages they need construction work (Table-30). In Sorkh Rod in all surveyed villages the roads need filling with gravel, in 5 villages widening and in 7 villages they need construction work (Table-30).

In the Nangarhar Canal Command Area in 90 of the surveyed villages the access roads need filling with gravel, in 33 villages widening and in 51 villages they need construction work (Table-30).

Extent of Drug Use and Addiction:

In the number of villages where drug was not used is presented in Table-31.

In the surveyed villages in Behsud in 5 villages in Shinwar in 3 villages, in Batikot in 8 and in Mohmand Dara in 2 villages people used hashish (Table-31). In the Nangarhar Canal Command Area raw opium and heroin were not used and in Sorkh Rod hashish was also not used by the people.

Table 31: Number of villages Where drugs are used

District	Raw Opium		Hashish		Heroin		Other		% drug user as of total population
	Used	Not used	Used	Not used	Used	Not used	Used	Not used	
	Number of villages								
Behsud	0	29	5	24	0	29	0	29	0.03
Shinwar	0	15	3	12	0	15	0	15	0.02
Bati Kot	0	34	8	26	0	34	0	34	0.02
Mohmand Dara	0	8	2	6	0	9	0	8	0.03
Sorkh Rod	0	6	0	6	0	6	0	6	0.00
Total	0	92	18	94	0	92	0	92	

In the surveyed villages of Behsud 35 persons were addicted to Hashish and in 27 villages people were aware of drug abuse and in 2 villages people were not aware of drug abuse, which showed in 93% of the surveyed villages of Behsud people were aware of the drug abuse (Table-32).

Table 32: Number of addicts, Number & percentage of Villages in which people are aware of drug abuse

District	Number of Addicts	Number of Villages			% of Village aware of drug abuse
		Knowledge about drug abuse			
		Positive	Negative	Not. Ans.	
Behsud	35	27	2	0	93
Shinwar	15	15	0	5	75
Bati Kot	24	21	12	1	62
Mohmand Dara	8	8	0	0	100
Sorkh Rod	0	3	0	18	14
Total	82	74	14	24	66

In the surveyed villages of Shinwar there were 15 persons addicted to Hashish and in 15 villages people were aware of drug abuse and in 5 villages there was no answer to the question which indicated that in 75% of the surveyed villages people were aware of drug abuse in Shinwar (Table-32). In Batikot 24 persons used Hashish and in 21 of the surveyed villages people were aware of the drug misuse and in 12 of the surveyed villages people did not have knowledge about the drug abuse, which showed that in 62% of the surveyed villages people were aware of the drug misuse (Table-32).

In Mohmand Dara in 8 surveyed villages there were 8 persons addicted to Hashish and in 100% of the surveyed villages people were aware of the drug abuse (Table-32).

In the surveyed villages of the Nangarhar Canal Command Area, 82 persons used Hashish in 74 villages people were aware of the drug misuse, in 14 villages people did not have knowledge about drug abuse and in 66% of the villages people were aware of the drug abuse (Table-32)

Assisting Agencies:

The types of the activities of the assisting agencies is presented in Table-33.

Table 33: Assistance agency activities

District	Type of Activities				
	Agriculture	Irrigation	Drinking Water	Education	Stream Cleaning
Behsud	13	0	2	1	6
Shinwar	5	0	0	0	0
Bati Kot	1	0	0	2	0
Mohmand Dara	0	0	0	0	0
Sorkh Rod	0	2	0	0	0
Total	19	2	2	3	6

In the surveyed villages of Nangarhar Canal Command Area the various NGOs have 19 agricultural, 2 irrigation, 2 drinking water one educational and 6 stream and canal cleaning projects (Table-33)

The various NGOs and their activities in the surveyed villages of the Nangarhar Canal Command Area by village is presented in Appendix-F. There were different NGOs with various types of activities in some of the surveyed villages of all the districts, except Mohmand Dara (See Appendix-F).

8. CONCLUSIONS

In aggregate the number of families in the surveyed villages in 1977 to 1993 have been increased from 11259 to 15068 which shows a 34 percent increase with an annual growth rate of 2.10 percent. This increase in population and the destruction of the infrastructure of the surveyed villages will increase the burden of the people to fulfil their requirements in those villages. May be this is why in some area (Behsud) that 71% of the families are still refugees in Pakistan.

The alternative occupation or source of income is very limited in the rural areas, which is about 6% as of the total population as compared to the suburb areas of the surveyed villages which is about 12 percent.

The 16 years of war had affected the leadership type in the surveyed villages. Traditionally Khan and Malik were the two most effective types of leadership in the villages, but now Malik ranked first followed by commander and Khan ranked the last in the leadership type of the villages.

Farm Powers are the pre-requisites of any type of agricultural production and activities, whereas in some of the surveyed villages (Behsud) there still exists about 21% of the farmers without any farm power. If those 71% refugees families also return to their villages in Behsud, this problem will even get more serious.

In order for the farmers not to cultivate opium poppy they not only need a relatively larger size of farm, but also the farm has to be productive with a better opportunity of marketing for their produce.

Considering that other conditions are provided suitable, lack of fruit and rice cultivation in an area is a good indicator of unavailability of sufficient amount of irrigation water. Based on this the surveyed villages in Shinwar and Mohmand Dara there is a serious need for irrigation water and the cleaning of the main Nangarhar canal and reconstruction and repair of the sub-canals with their gates.

In the surveyed villages where opium poppy cultivation was common, its cultivation was a tradition and the war had no effect on its cultivation.

In the surveyed area of Nangarhar Canal Command Area in some of the surveyed villages only opium poppy is growing and hashish is not growing. However, hashish is the only drug that is misused by some people of the surveyed villages.

One of the reason of opium cultivation might be due to its high net income about Afs. 400,000 per jerib per year.

The only generalisation that can be made about the five surveyed districts in the canal command area is that problems that they face are unevenly distributed among the villages. The unevenness and differences of destruction among the districts means that localised solutions to the problems are required. Villages in Shinwar and Mohmand Dara have lost all of their irrigation water because of the destruction of the main gates, drainage, branch gates and distributor gates of the sub-canals of the Nangarhar canal.

2. DESCRIPTION OF THE SURVEYED AREA

Nangarhar is one of the most densely populated provinces of the Country with more than 250 persons per square Kilometer.[1] Nangarhar Canal Project is the greatest agricultural project that has been built in Nangarhar province. The Nangarhar Canal Project work started in 1960 and its construction work was completed in 1968 and it started production in 1970.

The Nangarhar Canal is 70 Kilometers long and an average of 4.5 Kilometers wide.[2] It irrigates 31 thousand hectare of land.[3] From the starting point (Daraunta) to the end point in Shinwar district beside Hada Farms it has a total of 30 Vertical with many parallel sub-canals which irrigate all the cultivated land under the Canal Command Area. These sub-canals are numbered from the intake of the canal in Daraunta and end up in the Shinwar district. The operational and non-operational number of main gates, drainage, branch gates and distributor gates in November, 1992, is presented in table-1. East of Samarkhel mountain called eastern canal and west called western canal.

The Nangarhar Canal Command Area lays out on both sides of the famous Jalalabad-kabul and Jalalabad-Tourkham highway. The Nangarhar Canal Command Area consists of parts of 5 districts as Sorkh Rod, Behsud, Batikot, Shinwar and Mohmand Dara.

Most of the Nangarhar Canal Command Area is governmental land planted with Citrus and Olive Orchards and cereal and legume crops. Part of the land in the canal command are a is privately owned and irrigated from the Nangarhar Canal. Some of this privately owned land was privately owned even before building the Nangarhar canal (in Batikot district) with almost dry land farming due to the scarcity of irrigation water at that time. When the Nangarhar Canal was built, farmers of this district gave land to the government for road and sub-canal building and the government gave free irrigation water of the nangarhar canal to these farmers. Some governmental land was given to some landless farmers especially in the shinwar district.

In this survey only the villages were covered where people owned private land because governmental land is cultivated by the government and so illicit crops never cultivated there.

This survey include only those villages of the five mentioned districts which are under the Nangarhar canal command area. All these villages that are located close to the Jalalabad city were originally referred to Jalalabad and lower Chaprahar districts but during the survey it

1 *The Agriculture Survey of Afghanistan Swedish Committee for Afghanistan, 13th Report, Repatriation and Rehabilitation Survey.Part IV. Central Nangarhar, October, 1992.*

2 *Tesfa Nigusie, UNDCP, CB Mission Report No. 34 to Nangarhar, November 18-25, 1992.*

3 Baz Mohammad Shirzad, Evergreen Tree Fruits. Kabul University Press PP.8, 1989.

Appendix - A

Survey Questionnaire

UNITED NATIONS INTERNATIONAL DRUG CONTROL PROGRAMME (UNDCP)
AFGHANISTAN REHABILITATION AND RECONSTRUCTION PROJECT
PESHAWAR - PAKISTAN
Opium poppy reduction/eradication progrmme

(SURVEY FORM-MAY, 1993)

Date data collected:______________
Surveyor code :______________
No. of people in group:___________
interviewed.

Province:______________
District:______________
Main village:__________
Village belong
to main village:_______

i) GENERAL DATA:

1.Common information:

No of families in the village Now______ , Before war_______

No of people in family as an average Now______,before war____

No of refugee families of the village returned to the village up to now ________

No of refugee families from this village still living in Pakistan __________
In Pakistan in which camps 1. ______ 2. _______ 3. _______ 4.

No of people involved in alternative income sources in the village:

Title	Ch.	No.	Title	Ch.	No.
Traders			Handicraft		
Shopkeepers			Government emp.		
Livestock owners			Daily labours		

NGOs working in the village/district.

In the district		In the village	
Name	Type of pro.	Name	Type of pro.

2. <u>Leadership:</u>

What is the present leadership pattern in the village in order of their importance:

Title	Imp.	No.	Title	Imp.	No.
Mulla			Malik		
Commander			Khan		

3. <u>Agriculture:</u>

Type and No of farm power used by the farmers of the village

No of tractor _______ No of thresher_______

No of oxen _______

Average farm size of a farmer in the village

Jeribs_______

Types of the crops grown by the farmers of the village

a) Food crop:

(Cereal crop) 1._______ 2._______ 3._______ 4._______

b) Cash crop:

Fruit crop 1._______ 2._______ 3._______ 4._______

Indus. crop 1._______ 2._______ 3._______ 4._______

Vegetables 1._______ 2._______ 3._______ 4._______

c) Illicit crop 1._______ 2._______ 3._______ 4._______

4. <u>Irrigation:</u>

The land of this village is irrigated by:

Canal Yes_____ No_____ , Spring Yes_____ No_____

Karez Yes_____ No_____ , Wells Yes_____ No_____

Questions about the irrigation systems of the village

No	1				2				3				4			
Name of the canal/ Jui																
Is the water flowing normal now	Y		N		Y		N		Y		N		Y		N	
If no, what is the reason																

A. Intake destroyed C. Canal damaged E. Mine

B. Intake damaged D. Uncleaned F. Security

No	1				2				3				4			
Name of the Karez																
Is the water flowing normal now	Y		N		Y		N		Y		N		Y		N	
If no, what is the reason																

A. Karez damaged   C. Mine
B. Uncleaned   D. Security

To improve the irrigation of the village, need to
1.________ 2.________ 3.________ 4.__________
A. Repair and construction of intakes C. Construction of diversion
B. Construction of aqueducts   D. Cons. of culverts
E. Cons. of siphon

5. <u>Roads</u>

No of access roads to the village
1.________ 2.________ 3.________ 4.__________
Do these roads have mines? (Yes/No)
1.________ 2.________ 3.________ 4.__________
Works to be carried out

1 [ ][ ][ ][ ] 2 [ ][ ][ ][ ] 3 [ ][ ][ ][ ] 4 [ ][ ][ ][ ]

A. Filling gravel   C. Construction of bridge
B. Widening   D. Demining

6. <u>Housing /construction:</u>

House construction technique

Wall		%	Roof		%	Shape of roof		%
Mud wall			Wooden roof			Flat roof		
Brick wall			Concrete Beams			Curve roof		
Ovened brick/ stone wall						Tent shape		

What percentage of the houses in the village are destroyed_____ %

No of destroyed schools ________ , undestroyed schools______ in the village.

No of destroyed mosques ________ , undestroyed mosques______ in the village.

No of destroyed clinics ________ , undestroyed clinics______ in the village.

Priority of construction: of mosques______, of schools______ of clinics________. (1,2,3)

OPIUM POPPY DATA

1. Historical dimension:

What kind of illicit crops are grown in the village ________
A. Poppy B. Hashish C. Both A and B.

History of cultivation __________
A. Since long time C. During war
B. Before war D. Recently

2. Quantitative dimension

Area under opium poppy cultivation as a percentage of total cropped area.

Cultivated area ________ Jeribs, from total cultivated area opium poppy ________ Jeribs.

Yield per jerib of,
Opium______ kgs., wheat______ seers , Maize _______ seers, Rice ______ seers.

3. Economic dimension:

a) Poppy seed per jerib ______ kgs. cost per kg_______ Afs.
b) Fertilizer,
(DAP) need/jerib _____ kgs. cost/kg______ Afs.
(Urea) need/jerib_____ kgs. cost/kg______Afs.
c) No of man-days need to cultivate a Jerib of poppy ______

Wage per day: Weeding_____ Afs., Collection of sap____ Afs.

d) Average cost of opium per kg.________ Afs.

4. Marketing and trafficking:

Percentage of the farmers selling their products, within the village ______, or out of the village _______ to middle men.

5. Reduction poppy cultivation:

Is there any formal _________ , or informal_________ program in the village to discourage poppy cultivation? (Yes/No)

If yes, has it been working effectively?
Yes ______ , No_______

6. Others:

Do the people of the village use,
a) Raw opium Yes_____ No_______
b) Hashish Yes_____ No_______
c) Heroin Yes_____ No_______
d) Other chemical compound Yes_____ No_______

No. of addicts in the village __________

Are the people of this village aware of drug abuse?
Yes_______ No_______

The general intention of elders and local people, about cultivation of illicit crop:

Idea	Poppy		Hashish	
	Check	%	Check	%
Continued cultivation				
Reduction in cultivation				
Complete eradication				
Substitution by another crop				

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Appendix - B

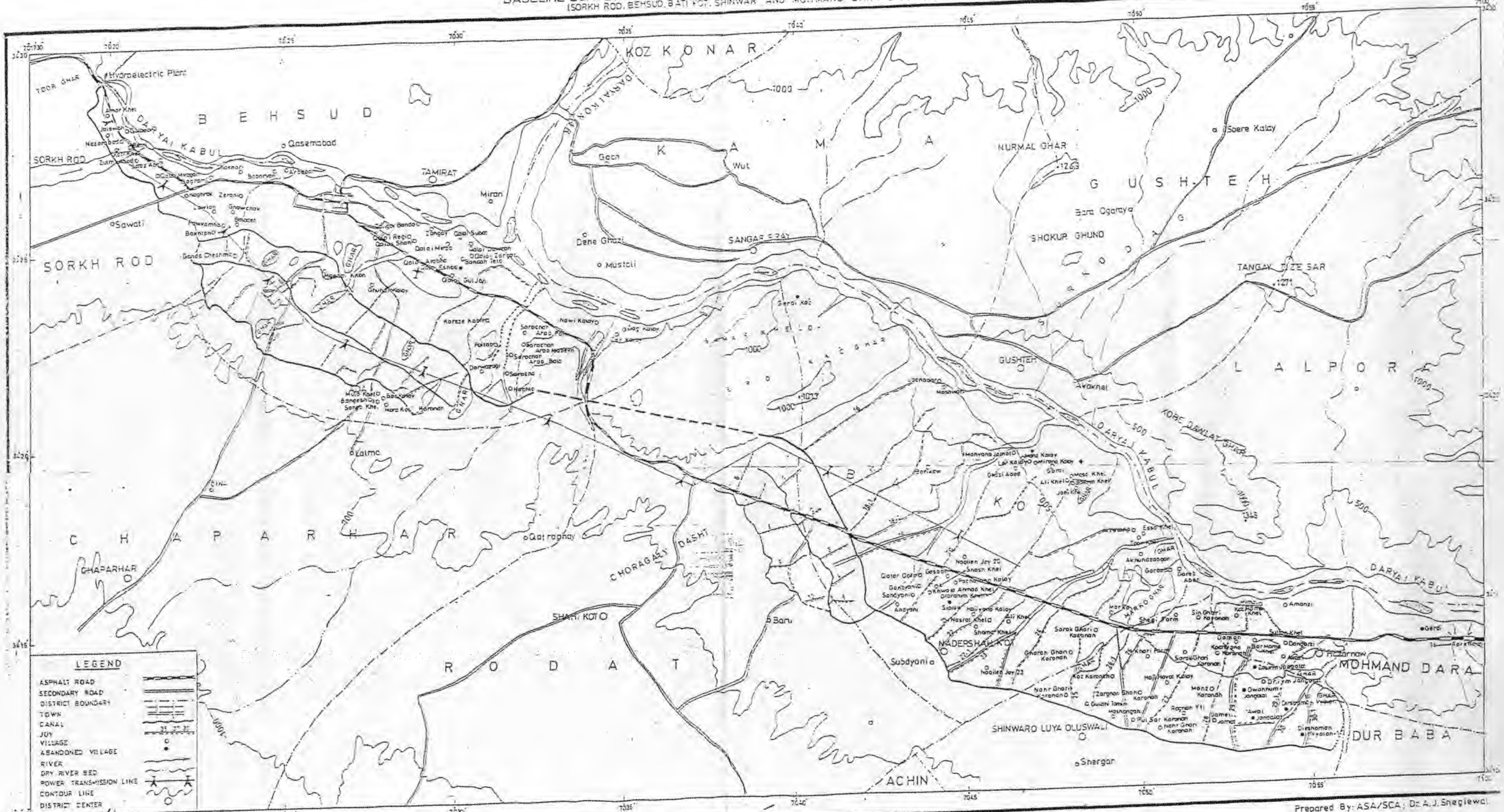
Map of the Surveyed Villages

UNDCP AND ASA/SCA POPPY CULTIVATION SURVEY

UNDCP AND ASA/SCA POPPY CULTIVATION SURVEY

BASELINE SURVEY CANAL COMMAND AREA, NANGARHAR PROVINCE, AFGHANISTAN.

(SORKH ROD, BEHSUD, BATI KOT, SHINWAR AND MOHMAND DARA DISTRICTS)



Scale 1:75000

0 — 7.5 Km

The Survey was conducted in May-June 1993. Survey Data were collected by ASA/SCA Enumerators through Group interviews with Village Elders.

Type of Irrigation (Canal) by village

Appendix C: Type of irrigation (Canal) by village

District	Village name	Canal name	Flow	Status
Behsud	Bandah Tela	1. Jui-9	Yes	
Behsud	Bangesh	1. Jui Kanal	Yes	
Behsud	Bar Kalay	1. Jui Kanal	Yes	
Behsud	Dag Kalay	1. Farm Doshi	Yes	
Behsud	Darwazagi	1. Jui Kalan	Yes	
Behsud	Ghundi Kalay	1. Maydan Hawayi	Yes	
Behsud	Karize Kabir	1. Jui Kalan	Yes	
Behsud	Manz Kosi Koronah	1. Jui-5	No	Intake damaged Intake destroyed Uncleaned
Behsud	Moqam Khan	1. Jui-18	Yes	
Behsud	Mulah Khel	1. Jui Kanal	Yes	
Behsud	Naghlo	1. Jui-15	Yes	
Behsud	Nawi Kalay	1. Samar Khel	No	Intake destroyed Canal damaged Uncleaned
Behsud	Paitab	1. Jui Kalan	Yes	
Behsud	Qala Guljan	1. Jui-9	Yes	
Behsud	Qala Mirza	1. Jui-9	Yes	
Behsud	Qala Suhbat	1. Jui-9	Yes	
Behsud	Qalai Arabha	1. Jui-9	Yes	
Behsud	Qalai Dawran	1. Jui-9	Yes	
Behsud	Qalai Regi	1. Jui-9	Yes	
Behsud	Qalai Shahi	1. Jui-9	Yes	
Behsud	Qalai Zargar	1. Jui-9	Yes	
Behsud	Sangar Khel	1. Jui Kanal	Yes	
Behsud	Saracha	1. Saracha	Yes	
Behsud	Saracha Arabha Bala	1. Jui-15 2. Jui Qaryah	Yes Yes	
Behsud	Sarachah Arab Mabain	1. Jui-15 2. Jui Qaryah	Yes Yes	
Behsud	Sarachah Arab Payan	1. Jui-15 2. Jui Qaryah	Yes Yes	
Behsud	Zangoy	1. Zangoy	Yes	
Behsud	Zangoy Banda	1. Zangoy	Yes	
Behsud	Zor Kalay	1. Samar Khel	No	Intake destroyed Uncleaned Canal damaged
Shinwar	Drim Jangalat	1. Jui-29	No	Uncleaned Canal damaged Intake damaged
Shinwar	Dwah Hum Jangalaat	1. Jui-25	No	Canal damaged Intake damaged Uncleaned
Shinwar	Gulahi Tamir	1. Jui-26	No	Canal damaged Uncleaned Intake damaged
Shinwar	Haji Hayat Kalay	1. Jui-27	No	Uncleaned Intake damaged Canal damaged
Shinwar	Jame Jomat	1. Jui-28	No	Intake damaged Canal damaged Uncleaned
Shinwar	Khari Farm	1. Jui-26	No	Uncleaned Canal damaged Intake damaged

was found that some of these villages belong to Sorkh Rod and some to Behsud districts and only two villages (Babryan and Arbaban) are belonging to the Jalalabad city. Therefore in this report these villages are considered either part of Sorkh Rod or Behsud districts and not Jalalabad.

The surveyed area of the five mentioned districts under the Nangarhar Canal Command Area is warm but very similar climatic conditions and traditionally profited by producing vegetables for urban markets in seasons when other areas could not. Principally the surveyed areas should not differ according to the availability of irrigation water but due to the main gates and sub-canals damages of the main canal, the Batikot, Shinwar and Mohmand Dara districts not receiving enough irrigation water.

Table 1: Operational and non-operational parts of the main canal

Canal Section	Description	Operational	Non Operational	Total
Western	Main gates	7	1	8
	Drainage	1	1	2
	Branch gates	19	2	21
	Distributor gates	8	11	19
Eastern	Main gates	4	7	11
	Drainage	1	3	4
	Branch gates	3	19	22
	Distributor gates	2	34	36

Appendix C: Type of irrigation (Canal) by village

District	Village name	Canal name	Flow	Status
Shinwar	Kochinyano Koronah	1. Jui-28	No	Intake damaged Uncleaned Canal damaged
Shinwar	Koz Koronah	1. Jui-26	No	Canal damaged Intake damaged Uncleaned
Shinwar	Mama Zarghon Shah	1. Jui-26	No	Uncleaned Canal damaged Intake damaged
Shinwar	Manz Koronah	1. Jui-28	No	Intake damaged Canal damaged Uncleaned
Shinwar	Markoh	1. Jui-25	No	Canal damaged Uncleaned Intake damaged
Shinwar	Mushangah	1. Jui-26	No	Uncleaned Canal damaged Intake damaged
Shinwar	Nahr Ghari	1. Jui-25	No	Uncleaned Canal damaged Intake damaged
Shinwar	Nahr Ghari Koronah	1. Jui-27	No	Uncleaned Canal damaged Intake damaged
Shinwar	Pul Sar Korona	1. Jui-26	No	Uncleaned Canal damaged Intake damaged
Shinwar	Raghah Pati	1. Jui-27	No	Intake damaged Canal damaged Uncleaned
Shinwar	Sarak Ghari Koronah	1. Jui-27	No	Uncleaned Canal damaged Intake damaged
Shinwar	Sarak Ghari Koronah	1. Jui-25	No	Canal damaged Intake damaged Uncleaned
Shinwar	Shegi Farm	1. Jui-26	No	Uncleaned Canal damaged Intake damaged
Shinwar	Sin Ghari Koronah	1. Jui-27	No	Uncleaned Canal damaged Intake damaged
Bati Kot	Akhundzadagan			
Bati Kot	Ali Khel	1. Jui-21	No	Intake damaged Uncleaned
Bati Kot	Ali Khel	1. Jui-22	No	Intake damaged Canal damaged
		2. Jui-23	No	Intake damaged Canal damaged
Bati Kot	Andyani	1. Andyani	Yes	
Bati Kot	Arhatona			
Bati Kot	Badlah Khel	1. Jui-21	No	Intake damaged Uncleaned
Bati Kot	Barikab	1. Jui-18	No	Uncleaned
Bati Kot	Essa Khan Khel	1. Anbar Khani	No	Intake damaged Uncleaned
Bati Kot	Gandyani	1. Shabad Pani	Yes	
Bati Kot	Garab Abah			

Appendix C: Type of irrigation (Canal) by village

District	Village name	Canal name	Flow	Status
Bati Kot	Garai	1. Jui-21	No	Intake damaged Canal damaged Uncleaned
Bati Kot	Gardab	1. Mardum	Yes	
Bati Kot	Geshani	1. Jui Blok-c	No	Intake destroyed Canal damaged Uncleaned
Bati Kot	Ghazi Abad	1. Basol	No	Canal damaged Uncleaned
Bati Kot	Hajiyano Kalay	1. Bast-22	Yes	
Bati Kot	Ibrahim Khel	1. Jui-21	No	Intake damaged Canal damaged Uncleaned
Bati Kot	Jani Khel	1. Jui-21	No	Intake damaged Uncleaned
Bati Kot	Khoja Ahmad Khel	1. Khwarrah Veyala	No	Uncleaned Intake damaged
Bati Kot	Lachapor	1. Seyadok Tanbeh	Yes	
Bati Kot	Lar Kalay	1. Chardehi	No	Intake damaged Uncleaned
Bati Kot	Mahyano Jomat	1. Chardehi	No	Intake damaged Uncleaned
Bati Kot	Manz Kalay	1. Chardehi	No	Intake damaged Uncleaned
Bati Kot	Mashwani	1. Jar Kalan	No	Uncleaned Canal damaged
Bati Kot	Mirano Kalay	1. Chardehi	No	Intake damaged Uncleaned
Bati Kot	Mosa Khel	1. Jui-21	No	Intake damaged Uncleaned
Bati Kot	Naqilen Joey 20	1. Jui-20	No	Intake damaged Canal damaged Uncleaned
Bati Kot	Naqilen Joey 23	1. Jui-23	No	Intake damaged Canal damaged Uncleaned
Bati Kot	Nasrat Khel	1. Nasrat Khail	No	Intake damaged Canal damaged Uncleaned
Bati Kot	Pachayano Kalay	1. Jui-22	No	Intake damaged Uncleaned
Bati Kot	Qatar Qalah	1. Jui-20	No	Intake damaged Uncleaned
Bati Kot	Shama Khel	1. Jui-22	No	Intake damaged Canal damaged Uncleaned
Bati Kot	Shash Khel	1. Jui-20	Yes	
Bati Kot	Sondyani	1. Jui-20	No	Intake damaged Canal damaged Uncleaned
Bati Kot	Toor Khel	1. Anbar Khani	No	Intake destroyed Uncleaned Canal damaged
		2. Kori	No	Intake destroyed
Mohmand Dara	Akazi	1. Jui-29	No	Intake damaged Canal damaged Uncleaned
		2. Gorako Chini	No	Uncleaned

Appendix C: Type of irrigation (Canal) by village

District	Village name	Canal name	Flow	Status
Mohmand Dara	Aman Zai	1. Jui-29	No	Intake damaged Canal damaged Uncleaned
		2. Gorako Chini	No	Uncleaned
Mohmand Dara	Bar Mama Khel	1. Jui-29	No	Intake damaged Uncleaned Canal damaged
		2. Gorako Chini	No	Uncleaned
Mohmand Dara	Daman	1. Jui-28	No	Uncleaned Intake damaged Canal damaged
		2. Gorako Chini	No	Uncleaned
Mohmand Dara	Dangarzi	1. Jui-29	No	Uncleaned Canal damaged Intake damaged
		2. Gorako Chini	No	Uncleaned
Mohmand Dara	Koz Mama Khel	1. Jui-29	No	Uncleaned Canal damaged Intake damaged
		2. Gorako Chini	No	Uncleaned
Mohmand Dara	Mimzi	1. Jui-29	No	Uncleaned Canal damaged Intake damaged
		2. Gorako Chini	No	Uncleaned
Mohmand Dara	Sultan Khel	1. Jui-29	No	Intake damaged Uncleaned Canal damaged
		2. Gorako Chini	No	Uncleaned
Sorkh Rod	Amar Khel	1. Amar Khel	No	Uncleaned Canal damaged
Sorkh Rod	Arbaban	1. Nahre Shahi	Yes	
Sorkh Rod	Babaryan	1. Nahre Shahi	Yes	
Sorkh Rod	Bagrami	1. Bagrami	Yes	
Sorkh Rod	Bakhtan	1. Bakhtan	No	Uncleaned Canal damaged
Sorkh Rod	Baladeh	1. Bala Deh	Yes	
Sorkh Rod	Betni	1. Betni	No	Uncleaned
Sorkh Rod	Chaknori	1. Chaknori	No	Intake damaged
Sorkh Rod	Ganda Cheshma	1. Kanal	Yes	
		2. Kambod Rod	No	Intake damaged Uncleaned
Sorkh Rod	Ghawchak	1. Ghawchak	Yes	
Sorkh Rod	Gulbela	1. Bona	No	Uncleaned
Sorkh Rod	Jalawan	1. Jalawan	Yes	
Sorkh Rod	Koti Khel	1. Koti Khel	No	
Sorkh Rod	Lawlan			
Sorkh Rod	Naghrak	1. Naghrak	No	Uncleaned Intake damaged
Sorkh Rod	Nazar Abad	1. Nazar Abad	No	Uncleaned
Sorkh Rod	Pawkamha	1. Pawkamha	Yes	
Sorkh Rod	Qala Malekan	1. Ghawchak	Yes	
Sorkh Rod	Sabz Abad	1. Kachkol	No	Intake damaged Uncleaned
Sorkh Rod	Zerani	1. Zerani	Yes	
Sorkh Rod	Zulm Abad	1. Zulm Abad	No	Intake destroyed Uncleaned

Type of Irrigation (Karez) by village

Appendix D: Type of irrigation (Karez) by village

District	Village name	Karez name	Flow	Status
Behsud	Bandah Tela			
Behsud	Bangesh	1. Ragh Chenah	No	Karez damaged Uncleaned
		2. Bagh Chenah	No	Karez damaged Uncleaned
		3. Choghi	Yes	
		4. Bar Chenah	Yes	
Behsud	Bar Kalay	1. Bar Chenah	Yes	
		2. Khot Khoti	No	Karez damaged Uncleaned
		3. Bar Kali	No	Karez damaged Uncleaned
Behsud	Dag Kalay			
Behsud	Darwazagi			
Behsud	Ghundi Kalay			
Behsud	Karize Kabir	1. Kabir	No	Karez damaged Uncleaned
Behsud	Manz Kosi Koronah	1. Bar Chenah	Yes	
		2. Ragh Chenah	Yes	
Behsud	Moqam Khan	1. Moqam Khan	Yes	
Behsud	Mulah Khel	1. Mulah Khel	Yes	
		2. Karghah	Yes	
		3. Bar Kali	Yes	
		4. Khot Khoti	Yes	
Behsud	Naghlo			
Behsud	Nawi Kalay			
Behsud	Paitab			
Behsud	Qala Guljan			
Behsud	Qala Mirza			
Behsud	Qala Suhbat			
Behsud	Qalai Arabha			
Behsud	Qalai Dawran			
Behsud	Qalai Regi			
Behsud	Qalai Shahi			
Behsud	Qalai Zargar			
Behsud	Sangar Khel	1. Bagh Chenah	No	Karez damaged Uncleaned
		2. Ragh Chenah	No	Karez damaged Uncleaned
		3. Bar Chenah	Yes	
Behsud	Saracha	1. Pir Baba	No	Karez damaged Uncleaned
		2. Saracha	No	Karez damaged Uncleaned
Behsud	Saracha Arabha Bala			
Behsud	Sarachah Arab Mabain			
Behsud	Sarachah Arab Payan			
Behsud	Zangoy			
Behsud	Zangoy Banda			
Behsud	Zor Kalay			
Shinwar	Drim Jangalat			
Shinwar	Dwah Hum Jangalaat			
Shinwar	Gulahi Tamir			
Shinwar	Haji Hayat Kalay			
Shinwar	Jame Jomat			
Shinwar	Khari Farm			
Shinwar	Kochinyano Koronah			
Shinwar	Koz Koronah			

Appendix D: Type of irrigation (Karez) by village

District	Village name	Karez name	Flow	Status
Shinwar	Mama Zarghon Shah			
Shinwar	Manz Koronah			
Shinwar	Markoh			
Shinwar	Mushangah			
Shinwar	Nahr Ghari			
Shinwar	Nahr Ghari Koronah			
Shinwar	Pul Sar Korona			
Shinwar	Raghah Pati			
Shinwar	Sarak Ghari Koronah			
Shinwar	Sarak Ghari Koronah			
Shinwar	Shegi Farm			
Shinwar	Sin Ghari Koronah			
Bati Kot	Akhundzadagan	1. Baba Sahib	No	Karez damaged Uncleaned
Bati Kot	Ali Khel			
Bati Kot	Ali Khel			
Bati Kot	Andyani			
Bati Kot	Arhatona			
Bati Kot	Badlah Khel			
Bati Kot	Barikab			
Bati Kot	Essa Khan Khel	1. Anbar Khana	No	Karez damaged Uncleaned
Bati Kot	Gandyani			
Bati Kot	Garab Abah	1. Dandoki	No	Karez damaged Uncleaned
Bati Kot	Garai			
Bati Kot	Gardab	1. Watki	No	Uncleaned
Bati Kot	Geshani			
Bati Kot	Ghazi Abad	1. Ghazi Abad	No	Uncleaned
Bati Kot	Hajiyano Kalay			
Bati Kot	Ibrahim Khel			
Bati Kot	Jani Khel			
Bati Kot	Khoja Ahmad Khel			
Bati Kot	Lachapor			
Bati Kot	Lar Kalay	1. Jomat	No	Karez damaged Uncleaned
Bati Kot	Mahyano Jomat	1. Mahyano	No	Karez damaged Uncleaned
Bati Kot	Manz Kalay	1. Manz Kily	No	Karez damaged Uncleaned
Bati Kot	Mashwani			
Bati Kot	Mirano Kalay			
Bati Kot	Mosa Khel			
Bati Kot	Naqilen Joey 20			
Bati Kot	Naqilen Joey 23			
Bati Kot	Nasrat Khel			
Bati Kot	Pachayano Kalay			
Bati Kot	Qatar Qalah			
Bati Kot	Shama Khel			
Bati Kot	Shash Khel			
Bati Kot	Sondyani			
Bati Kot	Toor Khel			
Mohmand Dara	Akazi			
Mohmand Dara	Aman Zai			
Mohmand Dara	Bar Mama Khel			
Mohmand Dara	Daman			
Mohmand Dara	Dangarzi			
Mohmand Dara	Koz Mama Khel			

Appendix D: Type of irrigation (Karez) by village

District	Village name	Karez name	Flow	Status
Mohmand Dara	Mimzi			
Mohmand Dara	Sultan Khel			
Sorkh Rod	Amar Khel			
Sorkh Rod	Arbaban			
Sorkh Rod	Babaryan			
Sorkh Rod	Bagrami			
Sorkh Rod	Bakhtan			
Sorkh Rod	Baladeh			
Sorkh Rod	Betni			
Sorkh Rod	Chaknori			
Sorkh Rod	Ganda Cheshma			
Sorkh Rod	Ghawchak			
Sorkh Rod	Gulbela			
Sorkh Rod	Jalawan			
Sorkh Rod	Koti Khel			
Sorkh Rod	Lawlan			
Sorkh Rod	Naghrak			
Sorkh Rod	Nazar Abad			
Sorkh Rod	Pawkamha			
Sorkh Rod	Qala Malekan			
Sorkh Rod	Sabz Abad			
Sorkh Rod	Zerani			
Sorkh Rod	Zulm Abad			

Appendix - E

Percentage of Poppy Cultivation by village

Appendix E: Percent of poppy cultivation by village

District	Village	Total Cultivated Land (jerib)	Total Poppy Cultivated Land (jerib)	% Poppy Cultivated
Bati Kot	Akhundzadagan	1600	200	13
Bati Kot	Ali khel	380	40	11
Bati Kot	Ali khel	280	70	25
Bati Kot	Andyani	400	60	15
Bati Kot	Arhatona	120	20	17
Bati Kot	Badlah khel	40	5	13
Bati Kot	Barikab	2100	200	10
Bati Kot	Essa khan khel	400	100	25
Bati Kot	Gandyani	480	120	25
Bati Kot	Garab abah	1000	200	20
Bati Kot	Garai	300	50	17
Bati Kot	Gardab	150	50	33
Bati Kot	Geshani	500	70	14
Bati Kot	Ghazi abad	80	15	19
Bati Kot	Hajiyano kalay	80	10	13
Bati Kot	Ibrahim khel	350	40	11
Bati Kot	Jani khel	220	30	14
Bati Kot	Khoja ahmad khel	80	20	25
Bati Kot	Lachapor	780	50	6
Bati Kot	Lar kalay	300	20	7
Bati Kot	Mahyano jomat	1000	80	8
Bati Kot	Manz kalay	500	50	10
Bati Kot	Mashwani	400	100	25
Bati Kot	Mirano kalay	90	18	20
Bati Kot	Mosa khel	380	40	11
Bati Kot	Naqilen joey 20	226	5	2
Bati Kot	Naqilen joey 23	1300	30	2
Bati Kot	Nasrat khel	160	30	19
Bati Kot	Pachayano kalay	800	50	6
Bati Kot	Qatar qalah	150	15	10
Bati Kot	Shama khel	180	50	28
Bati Kot	Shash khel	780	150	19
Bati Kot	Sondyani	400	100	25
Bati Kot	Toor khel	190	30	16

Appendix E: Percent of poppy cultivation by village

District	Village	Total Cultivated Land (jerib)	Total Poppy Cultivated Land (jerib)	% Poppy Cultivated
Behsud	Bandah tela	380	0	0
Behsud	Bangesh	150	0	0
Behsud	Bar kalay	200	0	0
Behsud	Dag kalay	400	0	0
Behsud	Darwazagi	200	5	3
Behsud	Ghundi kalay	200	0	0
Behsud	Karize kabir	1000	15	2
Behsud	Manz kosi koronah	350	0	0
Behsud	Moqam khan	1000	0	0
Behsud	Mulah khel	300	30	10
Behsud	Naghlo	1500	0	0
Behsud	Nawi kalay	150	0	0
Behsud	Paitab	500	10	2
Behsud	Qala guljan	125	0	0
Behsud	Qala mirza	380	0	0
Behsud	Qala suhbat	200	0	0
Behsud	Qalai arabha	200	0	0
Behsud	Qalai dawran	120	0	0
Behsud	Qalai regi	300	0	0
Behsud	Qalai shahi	120	0	0
Behsud	Qalai zargar	120	0	0
Behsud	Sangar khel	200	0	0
Behsud	Saracha	3000	0	0
Behsud	Saracha arabha bala	500	0	0
Behsud	Sarachah arab mabain	300	0	0
Behsud	Sarachah arab payan	400	0	0
Behsud	Zangoy	1000	0	0
Behsud	Zangoy banda	300	0	0
Behsud	Zor kalay	15	0	0

3. SURVEY METHOD

Four enumerators carried out the field work of the survey from May 6 to June 15, 1993. Two enumerators were from the same districts and two other enumerators were from the neighbouring districts.

One enumerator was assigned to each district of Sorkh Rod Behsud and Batikot and one was assigned to two districts of Shinwar and Mohmand Dara.

In this survey a village is a congregation of 30 to 150 families. A village consisting more than 150 families were divided into two or more sectors each containing 30 to 150 families. This rule was an exception only in Hada, where all the houses were destroyed and its was difficult to find a known name for the village. Therefore, in Hada probably some villages may contain more than 150 families.

The data were collected on the basis of interviews and discussions from a prepared questionnaire with the key farmers of villages in the survey area (Appendix-A).

In each village surveyed, enumerators gathered a groups of an average of 5 knowledgeable farmers to discuss and answer survey questions. In all a total of 600 individuals participated in the interviews. The survey results represent the knowledge, interests and biases of a selected and generally well-informed group from each village.

Based on their knowledge of the area through prior work experience and residency, the SCA enumerators developed a list of the villages of their assigned districts. If a list topped 34 villages in a district, a random sampling of 34 villages was selected for inclusion in the survey.

The villages coverage of the survey by district is presented in Table-2. Table-2 also shows how pre-survey estimates of the number of villages (column first) differs from the actual survey experience.

On the basis of the field work of the enumerators, they estimated about more than 94% coverage of the villages in each of the five districts of the Nangarhar canal command area. Although it is not possible to extrapolate the results to all of the unknown number of villages, the coverage was extensive enough so that the survey provides a fair representation of the demography and degree of accuracy of answer to the questions.

The survey questions focussed on village demography, agriculture and irrigation, opium poppy assessments and village circumstances. With regard to demography the survey covered topics of a number of the families and household size, repatriation, alternative sources of income and leadership type. Concerning agriculture and irrigation, the survey

Appendix E: Percent of poppy cultivation by village

District	Village	Total Cultivated Land (jerib)	Total Poppy Cultivated Land (jerib)	% Poppy Cultivated
Mohmand Dara	Akazi	200	40	20
Mohmand Dara	Aman zai	300	45	15
Mohmand Dara	Bar mama khel	500	50	10
Mohmand Dara	Daman	80	10	13
Mohmand Dara	Dangarzi	600	90	15
Mohmand Dara	Koz mama khel	500	50	10
Mohmand Dara	Mimzi	350	60	17
Mohmand Dara	Sultan khel	650	80	12

Appendix E: Percent of poppy cultivation by village

District	Village	Total Cultivated Land (jerib)	Total Poppy Cultivated Land (jerib)	% Poppy Cultivated
Shinwar	Drim jangalat	200	0	0
Shinwar	Dwah hum jangalaat	400	100	25
Shinwar	Gulahi tamir	450	90	20
Shinwar	Haji hayat kalay	500	80	16
Shinwar	Jame jomat	300	50	17
Shinwar	Khari farm	400	0	0
Shinwar	Kochinyano koronah	300	0	0
Shinwar	Koz koronah	350	50	14
Shinwar	Mama zarghon shah	350	60	17
Shinwar	Manz koronah	350	40	11
Shinwar	Markoh	300	0	0
Shinwar	Mushangah	350	50	14
Shinwar	Nahr ghari	300	60	20
Shinwar	Nahr ghari koronah	750	100	13
Shinwar	Pul sar korona	150	40	27
Shinwar	Raghah pati	400	70	18
Shinwar	Sarak ghari koronah	600	50	8
Shinwar	Sarak ghari koronah	200	0	0
Shinwar	Shegi farm	300	60	20
Shinwar	Sin ghari koronah	600	70	12

Appendix E: Percent of poppy cultivation by village

District	Village	Total Cultivated Land (jerib)	Total Poppy Cultivated Land (jerib)	% Poppy Cultivated
Sorkh Rod	Amar khel	450	0	0
Sorkh Rod	Arbaban	190	0	0
Sorkh Rod	Babaryan	210	0	0
Sorkh Rod	Bagrami	500	0	0
Sorkh Rod	Bakhtan	600	0	0
Sorkh Rod	Baladeh	400	0	0
Sorkh Rod	Betni	120	0	0
Sorkh Rod	Chaknori	200	0	0
Sorkh Rod	Ganda cheshma	150	0	0
Sorkh Rod	Ghawchak	200	0	0
Sorkh Rod	Gulbela	160	0	0
Sorkh Rod	Jalawan	600	0	0
Sorkh Rod	Koti khel	360	0	0
Sorkh Rod	Lawlan	80	0	0
Sorkh Rod	Naghrak	200	0	0
Sorkh Rod	Nazar abad	500	0	0
Sorkh Rod	Pawkamha	190	0	0
Sorkh Rod	Qala malekan	260	0	0
Sorkh Rod	Sabz abad	460	0	0
Sorkh Rod	Zerani	300	0	0
Sorkh Rod	Zulm abad	400	0	0

Appendix - F

Various NGOs and their activities by village

Appendix F: Various NGO`s and their activities by village

DISTRICT	VILLAGE	NGO 1	type of project	NGO 2	type of project	NGO 3	type of project
Behsud	Bandah Tela	DACAAR	AGR-STREAM	SCA	AGR		
Behsud	Bangesh	DACAAR	WELL				
Behsud	Bar Kalay	DACAAR	WELL				
Behsud	Dag Kalay						
Behsud	Darwazagi						
Behsud	Ghundi Kalay						
Behsud	Karize Kabir						
Behsud	Manz Kosi Koronah						
Behsud	Moqam Khan						
Behsud	Mulah Khel						
Behsud	Naghlo						
Behsud	Nawi Kalay						
Behsud	Paitab						
Behsud	Qala Guljan	DACAAR	AGR-STREAM	SCA	AGR		
Behsud	Qala Mirza	DACAAR	AGR	SCA	AGR		
Behsud	Qala Suhbat	DACAAR	STREAM	SCA	AGR		
Behsud	Qalai Arabha	DACAAR	AGR	SCA	AGR		
Behsud	Qalai Dawran	DACAAR	STREAM	SCA	AGR		
Behsud	Qalai Regi	DACAAR	AGR	SCA	AGR		
Behsud	Qalai Shahi						
Behsud	Qalai Zargar	DACAAR	STREAM	SCA	AGR-EDUCAT		
Behsud	Sangar Khel						
Behsud	Saracha						
Behsud	Saracha Arabha Bala						
Behsud	Sarachah Arab Mabain						
Behsud	Sarachah Arab Payan						
Behsud	Zangoy	ARYANA	STREAM				
Behsud	Zangoy Banda						
Behsud	Zor Kalay						

Appendix F: Various NGO`s and their activities by village

DISTRICT	VILLAGE	NGO 1	type of project	NGO 2	type of project	NGO 3	type of project
Shinwar	Drim Jangalat						
Shinwar	Dwah Hum Jangalaat						
Shinwar	Gulahi Tamir	SCA	AGR				
Shinwar	Haji Hayat Kalay	SCA	AGR				
Shinwar	Jame Jomat						
Shinwar	Khari Farm						
Shinwar	Kochinyano Koronah						
Shinwar	Koz Koronah						
Shinwar	Mama Zarghon Shah						
Shinwar	Manz Koronah						
Shinwar	Markoh						
Shinwar	Mushangah	SCA	AGR				
Shinwar	Nahr Ghari						
Shinwar	Nahr Ghari Koronah	SCA	AGR				
Shinwar	Pul Sar Korona						
Shinwar	Raghah Pati	SCA	AGR				
Shinwar	Sarak Ghari Koronah						
Shinwar	Sarak Ghari Koronah						
Shinwar	Shegi Farm						
Shinwar	Sin Ghari Koronah						

Appendix F: Various NGO`s and their activities by village

DISTRICT	VILLAGE	NGO 1	type of project	NGO 2	type of project	NGO 3	type of project
Bati Kot	Akhundzadagan						
Bati Kot	Ali Khel						
Bati Kot	Ali Khel						
Bati Kot	Andyani						
Bati Kot	Arhatona						
Bati Kot	Badlah Khel						
Bati Kot	Barikab						
Bati Kot	Essa Khan Khel						
Bati Kot	Gandyani						
Bati Kot	Garab Abah						
Bati Kot	Garai						
Bati Kot	Gardab						
Bati Kot	Geshani						
Bati Kot	Ghazi Abad						
Bati Kot	Hajiyano Kalay						
Bati Kot	Ibrahim Khel	LAJNATBAR	EDUCAT				
Bati Kot	Jani Khel						
Bati Kot	Khoja Ahmad Khel						
Bati Kot	Lachapor						
Bati Kot	Lar Kalay						
Bati Kot	Mahyano Jomat	HAIATROSS	EDUCAT				
Bati Kot	Manz Kalay						
Bati Kot	Mashwani						
Bati Kot	Mirano Kalay						
Bati Kot	Mosa Khel						
Bati Kot	Naqilen Joey 20						
Bati Kot	Naqilen Joey 23						
Bati Kot	Nasrat Khel						
Bati Kot	Pachayano Kalay						
Bati Kot	Qatar Qalah						
Bati Kot	Shama Khel	SCA	AGR				
Bati Kot	Shash Khel						
Bati Kot	Sondyani						
Bati Kot	Toor Khel						

Appendix F: Various NGO`s and their activities by village

DISTRICT	VILLAGE	NGO 1	type of project	NGO 2	type of project	NGO 3	type of project
Mohmand Dara	Akazi						
Mohmand Dara	Aman Zai						
Mohmand Dara	Bar Mama Khel						
Mohmand Dara	Daman						
Mohmand Dara	Dangarzi						
Mohmand Dara	Koz Mama Khel						
Mohmand Dara	Mimzi						
Mohmand Dara	Sultan Khel						

Appendix F: Various NGO`s and their activities by village

DISTRICT	VILLAGE	NGO 1	type of project	NGO 2	type of project	NGO 3	type of project
Sorkh Rod	Amar Khel						
Sorkh Rod	Arbaban						
Sorkh Rod	Babaryan						
Sorkh Rod	Bagrami	BELGIUM	IRR				
Sorkh Rod	Bakhtan						
Sorkh Rod	Baladeh						
Sorkh Rod	Betni						
Sorkh Rod	Chaknori						
Sorkh Rod	Ganda Cheshma						
Sorkh Rod	Ghawchak						
Sorkh Rod	Gulbela						
Sorkh Rod	Jalawan						
Sorkh Rod	Koti Khel						
Sorkh Rod	Lawlan						
Sorkh Rod	Naghrak	UNHCR	IRR				
Sorkh Rod	Nazar Abad						
Sorkh Rod	Pawkamha						
Sorkh Rod	Qala Malekan						
Sorkh Rod	Sabz Abad						
Sorkh Rod	Zerani						
Sorkh Rod	Zulm Abad						

covered topics of agricultural land, types of crops grown, irrigation sources, damages and improvements. In relation to opium poppy topics such as illicit crop cultivation, Input in opium production, Opium net income and marketing and feasibility of illicit crop eradication were covered. Village circumstances include topics such as war damages and construction priorities, house infrastructure and road conditions, extent of drug use and addiction and assisting agencies.

Table 2: Survey coverage

District	Number of villages			Number of individual participating in interviews
	Identified	Surveyed	% Surveyed	
Sorkh Rod	16	21	131	99
Behsud	19	29	153	127
Batikot	46	34	74	208
Shinwar	32	20	63	46
Mohmand Dara	1	8	800	120
Total	114	112	98	600

4. DEMOGRAPHY

Number of the families and household size:

During the last 16 years of war, from 1977 to 1993 the population of the surveyed districts in the Nangarhar Canal Command Area increased from 11259 to 15068 families. The increase in the total number of families is an averaging 34% and it ranges from 30 to 37% which shows an annual growth rate of 2.10% (Table-3).

Table 3: Total number of families and of persons per family before and after war

	Total No. of families in and out side					Average No. of persons / family		
	1977	1993						
	Present in	Present in	Still refugees	Total	% increase	1977	1993	% increase
Behsud	4,020	1,568	3,796	5,364	33	7	10	43
Shinwar	1,530	1,555	490	2,045	34	9	11	22
Bati Kot	2,992	3,141	835	3,976	33	10	13	30
Mohmand Dara	690	655	245	900	30	9	11	22
Sorkh Rod	2,027	1,703	1,080	2,783	37	7	9	29
Total	11,259	8,622	6,446	15,068				

In addition to 16 years war destructions of houses, schools, roads, irrigation systems and agricultural infrastructures, the 34% increase in the number of families in the surveyed villages will further add to urgent requirements of the repatriated and repatriating refugees. Therefore during the rehabilitation planning of the surveyed villages the increased percent of the number of the families is to be included.

During the last 16 years the household size was also increased ranging from 22% in Mohmand Dara and Shinwar to 43% in the Behsud district (Table-3). This increase was higher in Sorkh Rod and Behsud Districts as compared to Batikot, Shinwar and Mohmand Dara districts.

Repatriation

Repatriation rate was high in all the districts except Behsud where 1378 refugee families returned and 3796 families (71% of the total fimilies) are still living in various camps in Pakistan (Table-4). It is largely because most of their houses are destroyed.

Table 4: Number of refugee families present versus No. still refugee

	Number of families			
District	Present	Refugees returned	Refugees still in Pakistan	Still refugee as % of total
Behsud	1,568	1,378	3,796	71
Shinwar	1,555	1,330	490	24
Bati Kot	3,141	2,713	835	21
Mohmand Dara	655	510	245	27
Sorkh Rod	1,703	1,010	1,080	39
Total	8,622	6,941	6,446	43

As the survey results reveal, 6941 refugee families have returned and 6446 refugee families are still living in various camps in Pakistan. Only 21% of the total number of families from Batikot district are still living in different camps in Pakistan (Table-4). Five villages were completely abandoned in Batikot and five in Shinwar and one village in Behsud [4] See for details the map of the surveyed villages (Appendix-B).

Refugees not repatriated yet are living in multiplicity of different camps and towns scattered mainly across the North West Frontier Province of Pakistan (Table-5). No particular pattern of settlement is evident from the data, indeed refugees from all five district are represented in most camps (Table-5).

Refugees from Batikot scattered in many more camps but refugees from Shinwar and Mohmand Dara districts are mainly living in relatively few camps.

[4] Enumerators explained during debriefing

Table 5: Refugee Camps in Pakistan

Behsud	Shinwar	Batikot	Mohmand Dara	Sorkh Rod
Akora Khatak	Kacha Gari	Acheni	Kacha Gari	Akora Khatak
Haripur	Khyber Agency	Akora Khatak	Landi Kotal	Badaber
Kacha Gari	Nasir Bagh	Badaber	Munda	Haripur
Kamkol	Peshawar	Baghbanan	Nasir Bagh	Kababyan
Khazana	Shamshato	Baghchah		Khazana
Kheshko	Warsak	Jalozai		Kohat
Matani		Khatak Pul		Nasir Bagh
Munda		Kheshko		Sawabi
Pando		Munda		Warsak
Peshawar		Omer		Zendi
Sawabi		Pendi		
Shamshato		Pirsabaq		
		Shagai		
		Soor Pol		
		Uormar		
		Wahid Gari		
		Woch Nahr		
		Zakhel		

Although a village in this survey defined as the congregation of 30 to 150 families, but exception to this role were observed in a few cases and the average number of families per village is presented in (Table-6).

Table 6: Village Size

District	Number of families / village		
	High	Low	Average
Behsud	850	40	185
Shinwar	180	45	102
Bati Kot	310	22	117
Mohmand Dara	190	40	112
Sorkh Rod	390	35	133

The average number of families per village varied in different districts. Behsud with an average of 185 families per village considered the highest number of families and Batikot with 102 families per village is considered the lowest average number of families per surveyed village. The lowest number of families per surveyed village was 22 in Batikot and highest was 850 in Behsud district.

Alternative source of Income

In the surveyed area, among all the alternative occupation 5478 individuals were employed as labourers and only 47 individuals were livestock owners (Table-7).

Table 7: Number of people with alternative occupation

Districts	Occupation							
	Trader	Shopkeeper	Livestock owner	Handicraft	Govt. employee	Labours	Total population	% of total population
Behsud	86	128	16	104	122	1544	16700	12
Shinwar	40	40	30	54	72	716	17445	5
Bati Kot	17	162	1	260	278	1934	41234	6
Mohmand Dara	10	19	0	23	54	365	6865	7
Sorkh Rod	6	102	0	368	214	919	14979	11
Total	159	451	47	809	740	5478	97223	8

Craftsmen and government employees are ranking second and third respectively. The smallest number of people involved in livestock production indicates that either the war livestock loss is not yet restored or there is not enough pasture land for the livestock production in the surveyed villages.

In the surveyed villages, there is a relatively higher percentage of people from the total population who are involved in alternative occupations in Sorkh Rod and Behsud as compared to Batikot, Shinwar and Mohmand Dara districts (Table-7). This is probably due to the proximity of Sorkh Rod and Behsud to Jalalabad, many people there have alternative occupation.

Type of Leadership:

In the surveyed villages of all districts in the canal command area except Mohmand Dara Malik is considered the number one most important person ruling the village (Table-8).

The role and importance of the commanders in the surveyed villages emanates from Jehad and 16 years of war and his role and importance will probably disappear gradually.

The role and importance of Khan in the surveyed villages ranked the least important (Table-8). Although traditionally, in the past khan had somewhat important role in the society, but as this survey shows that Khan, has lost his ruling power during the last 16 years of war.

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UNITED NATIONS INTERNATIONAL DRUG CONTROL PROGRAMME
Afghanistan Drug Control and Rehabilitation Programme

AFG/89/580

BASELINE SURVEY

IN NANGARHAR CANAL COMMAND AREA IN REFERENCE TO ANALYSIS OF ILLICIT CROP CULTIVATION

SURVEY FUNDED BY
UNITED NATIONS INTERNATIONAL DRUG CONTROL PROGRAMME
Afghanistan Drug Control and Rehabilitation Programme

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The field survey was conducted by ASA enumerators:

Sultan Mohammad, Zayanullah, Mohammad Esa and Haydayatullah. Abdul Hakim Murad and Dr. Baz Mohammad Shirzad were responsible for training of enumerators. Data analysis and processing were completed by the Computer Section of ASA: Engineer Hamidullah, Data Analyst, Abdul Rahman Data Analyst and other members of computer section. Engineer Ziauddin Abdul Sediq and Khalil Rahman Haqjo. Map production was carried out by Dr. Abdul Jalil Shegiwal of the Survey and Extension Section of Agriculture Department of SCA.

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SUMMARY

In early 1993 the Afghanistan Drug Control and Rehabilitation Programme (AFG/89/580) initiated a Baseline Survey in the Nangarhar Canal Command Area in conjunction with the Agricultural Survey of Afganistan a division of the Swedish Committee for Afghanistan (ASA/SCA). The aim of the survey was to provide information on opium poppy cultivation trends and examine the influence of repatriation on agricultural systems in the study area. This was to enable UNDCP and development agencies to better target rehabilitation and reconstruction programmes in the command area and to assist in assessing a programme for the rehabilitation of the Nangarhar Canal.

Survey data was gathered on a village basis (30 to 150 families) through group interviews with an average of five farmers per village participating. The results reflect the knowledge, interests and activities of selected but well informed groups of farmers from each village.

The Survey Area covered 112 villages in the five districts of Sorkh Rod, Behsud, Batikot, Shinwar and Mohmand Dara. In view of the fact that the survey did not cover all villages in the study area the results presented in this report have not been extrapolated to all villages, but represent the specific findings only from the surveyed villages. The coverage was broad enough however for the assumption to be made that it provides some accurate information concerning demography, farming systems, opium poppy cultivation trends and some socio-economic factors related to the command area.

Since 1977 the number of families in the area have increased from 11,259 to 15,068, an average of 34% increase in all districts. The annual growth rate is estimated to have been 2.1 percent. Average family size is estimated to have increased by 22% in Mohmand Dara to as much as 43% in Behsud.

The survey indicates a total of 6,941 families repatriated and assumes 6,446 families still remaining in refugee camps. At the time of the study an estimated 43% of the families in the surveyed area were still living as refugees in Pakistan. The percentage of refugee families ranges from 21% in Batikot to as high as 71% in Behsud.

An estimated 8% percent of the total population carried out alternative occupations the most common being labour orientated. This was particularly the case in Sorkh Rod, Behsud and Batikot districts.

In the past Maliks and Khans have formed the ruling elite but it should be noted that sixteen years of war has led to an erosion in traditional leadership values. The result is that while Maliks have generally preserved their place in society a new type of leadership in the guise of Commanders is now evident. The Khan has generally been relegated to last in order of leadership precedence.

Agriculture Assessment

Draft animals have historically provided the main source of power supporting agricultural production activities. The survey result indicated that nearly 21% of the farmers in the Behsud district still lack this capacity. Average farm size was found to be very similar among different districts and ranged from six to eight jeribs per family.

Survey data indicated a shortage of irrigation water which precluded farmers from producing some important crops. Farmers in Shinwar and Mohmand Dara districts were unable from growing rice, sugarcane or fruit crops due to the destruction of canals and the non-availability of sufficient irrigation water. They were growing only wheat, cotton and89%small number of vegetables. On the other hand in Sorkh Rod, Behsud and Batikot with relatively plenty of irrigation water, they were growing various kinds of cereals, industrial crops, fruits and many kinds of vegetables.

To improve irrigation systems in the villages covered by the survey in the Nangarhar Canal Command Area a total of eighty three intakes, one aqueduct, twenty eight diversions, fifty culverts and seventeen siphons were identified as requiring reconstruction. The volume of work and materials required are covered in the DCRP - CB Nangarhar Mission Report dated November 18 - 25, 1992.

Opium Poppy Assessment

Results of the survey indicate that cultivation of opium poppy in Behsud, Batikot, Shinwar and Mohmand Dara is traditional and thought to be little influenced by the war situation. From 112 villages surveyed opium poppy is being cultivated in 57 villages. Evidence of Cannabis cultivation was not apparent.

Land under cultivation in the surveyed villages of the canal command area is estimated to be in the region of 47,066 jeribs. Of this the area under opium poppy cultivation was estimated to be 3,573 jeribs. This equates to approximately 7.6% of the total. In Sorkh Rod opium poppy cultivation was not evident.

Average yield of opium in the four districts ranged from 7.5 kg per jerib in Behsud to 9.6 kg per jerib in Mohmand Dara district. Inputs per jerib ranged from Afs. 11,499 in Mohmand Dara to Afs. 16,329 in Batikot. Labour inputs ranged from Afs. 78,546 per jerib in Shinwar to Afs. 158,594 per jerib in Behsud district.

The average net income from opium production was estimated to be between Afs. 251,846 per jerib in Behsud to Afs. 452,292 per jerib in Batikot district. Almost all opium was marketed within the village, except in Shinwar where 22% and in Batikot 3% was found to be marketed outside. While the survey group did not admit to opium or heroin use hashish was found to be widely used in all districts except Sorkh Rod. There were altogether 82 drug users in the area. About 66% of the surveyed villages were aware of the drug menace.

A section of the questionnaire sought information on government or village initiated reduction/eradication programmes. It was discovered that a formal programme in eight villages in Mohmand Dara and an informal programme in eight villages in Batikot and two villages in Behsud was being conducted. These programmes were thought to be effective in only one village in Behsud and one village in Batikot. It was found that approximately 27% of the local people wanted to continue growing opium poppy while 16% preferred reduction and 16% wanted complete eradication. The majority (about 65%) expressed a desire for assistance in growing alternative crops.

Village Infrastructure

The percentage destruction of houses varied across the districts ranging from 34% in Shinwar to 87% in Behsud. In addition 29 schools and 202 mosques were also destroyed with the reconstruction of mosques being ranked first in order of priority followed by Schools and finally clinics.

In the survey area 100% of roofing material was of traditional wooden beam flat roof construction. Almost all houses, except in Sorkh Rod and Behsud had mud walls. All access roads to the surveyed villages were of dirt road construction and although free from the mines needed widening, gravel filling and culvert installation.

Various assisting agencies are active in rehabilitation programmes in the area. Data on this can be obtained through the data base drawn up by the Agency Co-ordinating Body for Afghan Relief (ACBAR) in Peshawar.

NANGARHAR CANAL COMMAND AREA SURVEY RESULTS AT-A-GLANCE

		Behsud	Shinwar	Bati Kot	Mohmand Dara	Sorkh Rod	Total
1.	No. of villages surveyed	29	20	34	8	21	112
2.	No. of individuals participating in interviews	99	127	208	46	120	600
3.	Percent increase in families from 1977 to 1993	33 %	34 %	33 %	30 %	37 %	34 %
4.	Total No. of families present	1,568	1,555	3,141	655	1,703	8,622
5.	Total No. of repatriated refugee families	1,378	1,330	2,713	510	1,010	6,941
6.	Total No. of families still refugees	3,796	490	835	245	1,080	6,446
7.	Percent of refugees as % of total number of families	71 %	24 %	21 %	27 %	39 %	43 %
8.	Percent of poppy cultivation	0.4 %	12.8 %	13.1 %	13.4 %	0.0 %	7.6 %
9.	Average yield of opium (Kg/jerib)	7.5	9.0	9.5	9.6	0.0	9.3
10.	Average net income of opium (Afg/jerib)	251,846	440,807	452,292	382,591	0	425,227
11	Average estimated opium production in KGs during 1993	450	8,730	20,121	4,080	0	33,381
12.	Percent of houses destroyed	87 %	34 %	47 %	37 %	66 %	59 %
13.	Percent of School destroyed	91 %	0 %	100 %	0 %	60 %	83 %
14.	Percent of mosque destroyed	91 %	44 %	64 %	37 %	63 %	65 %
15.	Percent of clinic destroyed	0 %	0 %	0 %	0 %	0 %	0 %